

Application No. 09/421,575
Amendment dated August 26, 2003
Reply to Office Action of June 4, 2003

REMARKS

Claims 1-18 are pending in the application. Claims 2-7 and 11-16 have been allowed.

By this Amendment, claims 1 and 10 have been amended to more particularly point out and distinctly claim the invention. No new matter has been added. Applicants expressly reserve the right to pursue broader claims and/or to appeal any or all rejections.

Telephone Interview

The courtesy of the telephone interviews granted by Examiner Curtis on July 30, 2003, and August 18, 2003, is acknowledged with appreciation. During the interviews, the rejections of claims 1 and 10 were discussed. More specifically, the discussion included an explanation to the Examiner of how the amendments made to claims 1 and 10 herein help to distinguish over Wallace. To this end, it was pointed out that Wallace does not disclose or suggest directing information displayed on an information display device to a pupil as a virtual image.

Rejections under 35 U.S.C. § 103(a)

Claims 1 and 10

Claims 1 and 10 presently stand rejected under 35 U.S.C. 103(a) over Wallace (U.S. Patent No. 5,355,224). Because Wallace does not disclose or suggest all of the limitations of claims 1 and 10, it is asserted that claims 1 and 10 are patentable over the cited art.

Specifically, each of amended claims 1 and 10 recites *inter alia*:

a hologram combiner comprising a reflective type hologram and having an optical power for constructing an equivalent surface which is

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optically equivalent to the image surface at a different position than the image surface as viewed from the pupil; and
an information display device for displaying information on the equivalent surface,
wherein the hologram combiner transmits light from the image and reflects light from the information display device so that the image can be viewed with the information overlaid thereon,
wherein the information displayed on the information display device is directed to the pupil as a virtual image.

Wallace relates to an optical system for night vision goggles which superimposes visual data onto an image of a night scene. One embodiment, shown in Fig. 4 of Wallace, includes a holographic element. The holographic element reflects light for the image of the night scene and transmits light for the visual data such that both the image of the night scene and the image of the visual data are simultaneously focused at a common image plane, thus creating a real image. (Wallace, Fig. 4 and col. 9, line 38- col. 10, line 17). However, Wallace fails to disclose, or even suggest, the use of a virtual image for displaying the night scene and/or visual data. That is, Wallace fails to disclose or suggest an optical system "wherein the information displayed on the information display device is directed to the pupil as a virtual image" as recited by each of amended claims 1 and 10. Therefore, since Wallace fails to disclose or suggest all of the limitations of claims 1 and 10, Wallace cannot render obvious claims 1 and 10.

Accordingly, it is respectfully requested that the rejection of claims 1 and 10 under 35 U.S.C. 103(a) be reconsidered and withdrawn.

Claims 8, 9, 17, and 18

Claims 8, 9, 17, and 18 presently stand rejected under 35 U.S.C. 103(a) over Wallace in view of Swift (UK Patent Application No. GB 2,123,974). Because the combination of Wallace and Swift does not disclose or suggest all of the limitations of claims 8, 9, 17, and 18, it is asserted that claims 8, 9, 17, and 18 are patentable over the cited art.

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Specifically, claims 8 and 9 depend from claim 1, claims 17 and 18 depend from claim 10, and each of amended claims 1 and 10 recites *inter alia*:

a hologram combiner comprising a reflective type hologram and having an optical power for constructing an equivalent surface which is optically equivalent to the image surface at a different position than the image surface as viewed from the pupil; and

an information display device for displaying information on the equivalent surface,

wherein the hologram combiner transmits light from the image and reflects light from the information display device so that the image can be viewed with the information overlaid thereon,

wherein the information displayed on the information display device is directed to the pupil as a virtual image.

With respect to Wallace, as discussed above, this reference fails to disclose or suggest an optical system “wherein the information displayed on the information display device is directed to the pupil as a virtual image.” With respect to Swift, this reference relates to a heads-up display that uses a pair of transmission holograms in an optical system for superimposing visual information on an observer’s view of an outside scene. However, Swift fails to disclose or suggest a hologram combiner that includes a reflective hologram. Therefore, Swift fails to disclose or suggest an even more specific concept of a hologram combiner, having a reflective type hologram, that transmits image light and reflects information display light, directing it to a pupil as a virtual image. Thus, Swift fails to cure the deficiencies of Wallace that prevent Wallace from rendering obvious the claims in question. Thus, even if one skilled in the art were to consider Wallace in view of Swift, the proposed combination would still fail to disclose or suggest all of the limitations of claims 1 and 10, or claims 8 and 9 which depend from claim 1, or claims 17 and 18 which depend from claim 10.

Accordingly, it is respectfully requested that the rejection of claims 8, 9, 17, and 18 under 35 U.S.C. 103(a) be reconsidered and withdrawn.

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CONCLUSION

In view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and an early reconsideration and a Notice of Allowance are earnestly solicited.

This Amendment does not increase the number of independent claims, does not increase the total number of claims, and does not present any multiple dependency claims. Accordingly, no fee based on the number or type of claims is currently due. However, if a fee, other than the issue fee, is due, please charge this fee to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260.

If an extension of time is required to enable this document to be timely filed and there is no separate Petition for Extension of Time filed herewith, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed.

Any fee required for such Petition for Extension of Time, and any other fee required by this document, other than the issue fee, and not submitted herewith, should be charged to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260. Any refund should be credited to the same account.

Respectfully submitted,

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